PROGRAM: **Automotive Technologies**

PROGRAM CIP CODE: **47.0600**

DESCRIPTION: **The Automotive Technologies program is designed to prepare individuals for jobs as technicians in the automotive or avionics fields. The program is comprised of a core curriculum and four options: Option A (Automotive Technology), Option B (Auto body/Collision Repair), Option C (Diesel Engine Repair), and Option D (Aircraft Mechanics). The occupational standards for both options A and B are aligned with National Automotive Technicians Education Foundation (NATEF) and Automotive Service Excellence (ASE) standards.**

- **Automotive Technology includes units on repairing brake systems, repairing electrical/electronics systems, repairing steering and suspension systems, and engine performance diagnosis and repair.**

- **Auto Body/Collision Repair Technology includes units on performing disassembly and assembly repairs, performing structural repairs, performing metal, plastic and fiberglass repairs, preparing and finishing surfaces, and using appropriate paint and refinishing techniques.**

- **Diesel Engine Repair Technology includes units on repair, service, and maintenance of diesel engines in vehicles such as automobiles, buses, trucks and construction equipment; as well as stationary diesel engines in electrical generators and related equipment.**

- **Aircraft Mechanics prepares students to apply technical knowledge and skills to repair, service, and maintain all types of aircraft power plants and related systems. Instruction includes engine inspection and maintenance, lubrication and cooling, electrical and ignition systems, carburetion, fuels and fuel systems.**

RECOMMENDED PROGRAM SEQUENCE OF COURSES:

Career Preparation Grades 11-12

The following describes the recommended courses developed from industry-validated skills necessary for initial employment or continued related education.

47.0600.10 Automotive Technologies Core Curriculum: This program prepares the student to apply technical knowledge and skills in the safety, adjustment, maintenance, part replacement, and repair of tools, equipment and machines. The course includes developing career plans, preparing for employment, participating in work-based learning experiences, demonstrating oral and written communication skills, understanding financial operations of small businesses, identifying characteristics of successful leaders in the work place and participation in leadership development activities.

-and-

At least one option must be included as part of the instructional sequence for this program:

<u>Option A</u>

47.0600.20 Automotive Technology I: This course prepares the individual to apply basic technical knowledge and skills in safety, adjustment, maintenance, and parts replacement to repair automobiles and light trucks. Students are introduced to: a) brake systems; b) electric/electronic systems; c) steering and suspension systems; and d) engine performance diagnosis and repair.

-and-

47.0600.25 Automotive Technology II: This course prepares the individual to apply higher levels of technical knowledge and skills to maintain, diagnose and repair automobiles and light trucks. Students will gain in-depth knowledge needed to troubleshoot and identify malfunctioning components and sensors; and correct these problems in four areas: 1) brake systems; 2) electrical/electronic systems; 3) steering and suspension systems; and 4) engine performance analysis. Graduates should be able to pass the ASE tests for each of the four areas.

-or-

Option B

47.0600.30 Automotive Collision Repair I: This course prepares individuals to apply basic technical knowledge and skills in seven standards areas: 1) safety and maintenance; 2) damage analysis and preparing repair cost estimates; 3) disassemble and assemble parts, 4) non-structural repair; 5) metal, plastic and fiberglass repairs; 6) prepare and finish surfaces; and 7) paint and refinishing techniques.

-and-

47.0600.35 Automotive Collision Repair II: This course prepares the individual to apply higher levels of technical knowledge and skills to repair, reconstruct and finish automobile and light truck bodies, fenders and external features. Includes instruction in seven competency areas: 1) safety and maintenance; 2) damage analysis and damage reports; 3) disassemble and assemble parts; 4) non-structural repairs; 5) metal, plastic and fiberglass repairs; 6) prepare and finish surfaces; and 7) paint and refinishing techniques. Graduates will be prepared to pass the four specialized tests required for the Master Collision Repair and Refinish Certification.

-or-

Option C

47.0600.40 Diesel Engine Repair Technology I: Course description is under development.

-and-

47.0600.45 Diesel Engine Repair Technology II: Course description is under development.

-or-

Option D

47.0600.50 Aircraft Mechanics I: Course description is under development.

-and-

47.0600.55 Aircraft Mechanics II: Course description is under development.

And program may elect to add:

47.0600.75 Automotive Technologies - Internship: This course provides CTE students an opportunity to engage in learning through participation in a structured work experience that can either be paid or unpaid and does not necessarily require classroom instruction that involves the application of previously developed Automotive Technology knowledge and skills.

-or-

47.0600.80 Automotive Technologies - Cooperative Education: This course utilizes cooperative education methodology to combine school-based and supervised work-based learning experiences related to the standards identified for the Automotive Technologies program.

TEACHER CERTIFICATION REQUIREMENTS FOR THE AUTOMOTIVE TECHNOLOGIES PROGRAM

CAREER PREPARATION: The instructor must be vocationally certified according to the following table

	CERTIFICATES	
Automotive Technologies	**Types: BVT, SVT** **Approved Areas: ITE, VTT**	**Types: PVI, SVI, PCTI, SCTI** **No Approvals Necessary**

Note:

- **Automotive Technologies, 47.0600.70 may be a part of the sequence and the teacher must hold a Cooperative Education Endorsement (CEN).**
- **Teacher/Coordinator 47.0600.75 is not required to have a Cooperative Education Endorsement (CEN).**
- **Teacher/Coordinator 47.0600.80 is required to have a Cooperative Education Endorsement (CEN).**

CERTIFICATE ABBREVIATIONS FOR THE AUTOMOTIVE TECHNOLOGIES PROGRAM

Certificate Types		Approved Areas List	
BVT	**Basic Vocational Education**	**ITE**	**Industrial Technology Education**
PCTI	**Provisional Career and Technical Education Industrial Technology**	**VTT**	**Vocational Trade and Technical Education**
PVI	**Provisional Vocational Industrial Technology**		
SCTI	**Standard Career and Technical Education Industrial Technology**		
SVI	**Standard Vocational Industrial Technology**		
SVT	**Standard Vocational Education**		